

REMARKS

The present amendment is intended to be fully responsive to the Non-Final Office Action having a mailing date of April 22, 2010, wherein claims 4, 11-18 and 21-23 have been rejected and are currently pending and claims 3, 5-7, 19 and 20 have been withdrawn from consideration as being directed to a non-elected species. By this amendment, certain matters of form in 3, 9, 14, 17 and 21 have been amended. No claims are cancelled and no new claims are added and no new matter has been added by this amendment.

Accordingly, by this Amendment, Claims 3-7, 9 and 11-23 remain pending in this application after entry of these amendments. Claims 3, 5-7, 19 and 20 remain withdrawn from consideration. Applicant respectfully thanks the Examiner for the entry of the Amendment Accompanying Request For Continued Examination filed January 14, 2010 in this Application and for the withdrawal of the objections and rejections that were previously made to the present application.

Applicant respectfully requests entry of these amendments and reconsideration of the presently pending claims in light of the preceding amendments and the following arguments. Applicant also incorporates by reference into this response all of the arguments previously made in this matter in previous papers to the extent such arguments remain relevant to the current objections and rejections. In view of these arguments, all claims are believed to be in condition for allowance over the prior art of record. Therefore, this response is believed to be a complete response to the Office Action. However, Applicant believes that there are also reasons other than those set forth below why the pending claims are patentable. Applicant therefore reserves the right to set forth further arguments supporting the patentability of their claims, including the separate patentability of the dependent claims not explicitly addressed herein, in future papers.

Withdrawal of Claims due to Restriction

In the Office Action, claims 3, 5-7, 19 and 20 were withdrawn from consideration as being directed to a non-elected species, pending allowance of a generic or linking claim.

Further, the Examiner objected to language in Claim 3 as not requiring the particulars of Claim 9.

In the below discussion, Applicant presents reasons for the allowance of Independent Claims 9 and 17 on which these withdrawn claims depend. Furthermore, in the above amendments, Applicant has amended Claim 3 to more explicitly include the particulars of Claim 9 on which it depends. Upon allowance of claims 9 or 17, the Examiner is requested to further consider and allow the withdrawn claims dependent upon allowed independent claims.

Objection to the Specification

In the Office Action, the specification was objected to as lacking to expressly set forth “a means for attaching” as recited in Claim 9 and “means for attachment” as recited in Claim 14. By the above amendments, these phrases are no longer recited by these claims. Withdrawal of this objection is therefore respectfully requested.

Rejections under U.S.C. § 112

In the Office Action, Claims 4, 9, 11-18 and 21-23 are rejected under 35 U.S.C. 112, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

In particular, the Examiner has objected to the use of the term “means for attaching” in Claim 9 and “means for attachment” in Claim 14, the use of the term “its” in Claim 9, and potential ambiguities in terms in Claims 4, 9, 17 and 21. In response to this rejection, Claims 9, 14, 17 and 21 have been amended to correct matters of form and to provide clearer antecedent basis for language used in these claims. Withdrawal of this rejection is therefore respectfully requested.

Rejection of Claim 9 under 35 U.S.C. § 103

In the Office Action, Claim 9 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Scheublein (US 3,103,377) in view of Maughan (US 5,564,853). Reconsideration of this rejection is respectfully requested.

As Amended, Claim 9 Claims:

“A metal ball joint for use with a pressurized lubricant, the ball joint comprising in combination:

(i) an elongated shaft having an upper end and a lower end, said elongated shaft being threaded on the lower end;

(ii) a ball rigidly fixed and surmounted on the upper end of the elongated shaft, said ball having a curved surface and further having a truncated flat face at the highest point opposite the upper end of the elongated shaft;

(iii) a housing having an outside surface, an upper flange with a threaded opening, a middle portion, and a lower end, said housing further having a curved seat formed at the lower end of the housing to seat and engage a first portion of the curved surface of the ball adjacent the elongated shaft and an opening formed in the seat for passage therethrough of the elongated shaft but not permitting passage therethrough of the ball such as to permit pivotal movement of the elongated shaft relative to the housing, said middle portion of the housing having an internal thread and said middle portion further comprising an external thread for attaching the housing to a socket;

(iv) a retaining member having an upper surface and a lower end, said retaining member having a curved seat formed at the lower end thereof to seat and engage a second portion of the curved surface of the ball adjacent the truncated flat surface thereof and a lubricating port located in the upper surface of the retaining member, the lubricating port being in communication with a duct, said

duct providing a passageway from the lubricating port to the truncated flat face of the ball, capable of permitting the admission of a pressurized lubricant, such that the pressurized lubricant exerts pressure against the retaining member and the truncated flat face of the ball to maintain pressure on the ball to maintain the ball against the seat of the housing. said retaining member having an external thread on said lower end thereof, the external thread being engageable with the internal thread of the housing to trap the ball within the housing and the retaining member; the retaining member being capable of maintaining a seal between the ball and the housing via the pressure of the lubricant on the truncated flat face of the ball; and

(v) a set screw removably threaded into a the threaded opening in the upper flange of the housing into engagement with the retaining member such that the retaining member can be selectively removed from the housing by removal of the set screw.” [Claim 9, as Amended]

"To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974)." M.P.E.P. § 2143.03. It is respectfully submitted that the above listed references fail to teach or suggest all of the claim limitations in Claim 9, as amended. For example, neither Scheublein nor Maughan teach or suggest "a housing having . . . an upper flange with a threaded opening," a "retaining member being capable of maintaining a seal between the ball and the housing via the pressure of the lubricant on the truncated flat face of the ball," as required by Claim 9. Furthermore, neither Scheublein nor Maughan teach or suggest a structure having both a "housing further having a curved seat formed at the lower end of the housing," and a "a retaining member having . . . a curved seat formed at the lower end thereof to seat and engage a second portion of the curved surface of the ball," as required by Claim 9.

In particular, the Examiner states:

“Scheublein discloses (Figs. 3 and 5) a metal (note metal and stipple metal cross hatching) ball joint comprising: a shaft (61), ball (60, 62) having a truncated face (flat face at end of 60), housing (55, 63) having a curved seat (curved seat of 63), threaded opening (opening having 65), middle portion (middle portion of 55) and means for attaching (56); a retaining member (66) having a curved seat (72), lubricating port (75) and external thread (thread of 66 engaging 65)” [OFFICE ACTION, page 5, paragraph 4]

Applicant respectfully disagrees with portions of the Examiner’s interpretation of Scheublein as well as with the completeness of the discussion of the requirements of Claim 9.

Scheublein ‘377 teaches a retainer 66 threadably engaging a body 14 and trapping a hemispherical ball segment between the retainer and flat bearing surfaces. In the embodiments shown in Figs. 1, 5 and 11, the hemispherical ball has an upwardly facing curved surface and flat lower surface. In the embodiment of Fig. 5, the hemispherical ball has a downwardly facing curved surface and a flat upper surface. In each case, Scheublein explicitly requires a separate bearing component 19, 42 or 62 in engagement with the flat surface of the hemispherical ball.

As amended, Claim 9 claims “a housing having . . . an upper flange with a threaded opening.” This feature is not recited in the Examiner’s description of the teachings of Scheublein or Maugham. Instead, the Examiner merely states that Scheublein has a threaded opening. Neither Scheublein nor Maugham teach or suggest this feature. For at least this reason, Claim 9 is allowable.

As amended, Claim 9 further claims a “retaining member being capable of maintaining a seal between the ball and the housing via the pressure of the lubricant on the truncated flat face of the ball.” Therefore, to obviate claim 9, as amended, the prior art must at least teach or suggest the retaining member being capable of maintaining a seal between the ball and the housing via the pressure of the lubricant on the truncated flat face of the ball. It is respectfully submitted that none of the references cited, either alone or in any permissible combination, teach or suggest this structure. In fact, the Examiner finds no such teaching in Scheublein or Maugham, but instead states that “... the prior art structure is substantially identical to the claimed structure such that the PTO must presume the claimed

functions/properties.” [OFFICE ACTION, page 5, para. 7] For the various reasons stated above and below, the prior art structure is not substantially identical to the claimed structure. Furthermore, Scheublein has no teaching or suggestion that the retainer 40 would provide any sealing function. In fact, Scheublein shows and describes fluid passageways 28 that permit the escape of fluid to spaces 29 external to the retainer. [See Figs. 1 and 5 and Col. 2 lines 24-26 of Scheublein] Thus Scheublein teaches away from a retainer forming a seal. For at least this additional reason Claim 9 is allowable.

The Examiner further relies on the MPEP “that product claims are limited by structure and that functional limitations only limit a claim in so far as they require further specific structure.” [OFFICE ACTION, page 6, para. 1] It is respectfully submitted that the claimed language is a structural limitation on the retaining member and not merely a recitation of its functionality. For this further reason, Claim 9 is allowable.

As amended, claim 9 further requires the curved surface of the ball to engage two seats, one formed in the retainer and one formed in the housing. The Examiner has stated that Scheublein shows two curved seats. However, Scheublein nowhere teaches or suggests that the two curved seats are both engaged by the ball. Instead, Scheublein specifically teaches that the ball have either an upper or lower flat surface engaging a bearing component. Scheublein nowhere suggests or teaches that the bearing, which may provide additional freedom of movement of the components, may be omitted, but instead provides it in each of the several embodiments. For at least this additional reason, Claim 9 is allowable.

For these reasons, withdrawal of the of rejection of Claims 4, 11-16, 18 and 21-23 under 35 U.S.C. 103(a) over Scheublein in view of Maughan is respectfully requested.

Rejection of Claim 17 under 35 U.S.C. § 103

In the Office Action, Claims 17 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Scheublein (US 3,103,377) in view of Maughan (US 5,564,853). Reconsideration of this rejection is respectfully requested.

As Amended, Claim 17 Claims:

“A metal ball joint comprising in combination:

(i) a ball stud having an elongated shaft portion having an upper end and a lower end, a threaded portion at the lower end for engaging a drive member, and a ball portion at the upper end having a curved surface;

(ii) a unitary housing having an outside surface having an external thread formed thereon, said external thread being capable of attaching the housing to a suspension system; a lower end having a lower seat formed therein to seat a first portion of the curved surface of the ball portion; an opening formed in the lower seat for passage therethrough of the elongated shaft portion but not permitting passage therethrough of the ball portion such as to permit pivotal movement of the elongated shaft portion relative to the housing; an inside surface having an internal thread formed thereon;

(iii) a unitary retaining member having an upper end having an upper seat formed therein to seat a second portion of the curved surface of the ball portion; a void in the upper seat between the ball portion and the retaining member; a lubricating duct formed in the retaining member providing a passageway capable of permitting the admission of a pressurized lubricant into the void; an external thread formed on the retaining member, the external thread being engageable with the internal thread of the housing, the retaining member and the housing being capable of trapping the ball portion between the upper seat and the lower seat and maintaining a seal between the ball portion and the housing via pressure of the lubricant in the void on the ball portion; and

(iv) a set screw capable of extending from the housing into engagement with the upper surface of the retaining member to prevent relative rotational motion therebetween.” *[Claim 9, as Amended]*

As amended, Claim 17 claims a “retaining member and the housing being capable of trapping the ball portion between the upper seat and the lower seat and maintaining a seal between the ball portion and the housing via pressure of the lubricant in the void on the ball

portion.” Therefore, to obviate claim 17, as amended, the prior art must at least teach or suggest the retaining member cooperating with the housing to maintain seal between the ball and the housing via the pressure of the lubricant on the truncated flat face of the ball. For the reasons presented above with respect to Claim 9, it is respectfully submitted that none of the references cited, either alone or in any permissible combination, teach or suggest this structure. For at least this reason Claim 17 is allowable.

As amended, claim 17 further requires the curved surface of the ball to engage two seats, an upper seat formed in the retainer and a lower seat formed in the housing. For the reasons presented above with respect to Claim 9, it is respectfully submitted that none of the references cited, either alone or in any permissible combination, teach or suggest this structure. For at least this reason Claim 17 is allowable.

For these reasons, withdrawal of the of rejection of Claims 17 under 35 U.S.C. 103(a) over Scheublein in view of Maughan is respectfully requested.

Rejection of dependent claims under 35 U.S.C. § 103

In the Office Action, Claims 4, 11-16, 18 and 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scheublein (US 3,103,377) in view of Maughan (US 5,564,853). Reconsideration of this rejection is respectfully requested.

For the above reasons, it is respectfully submitted that claims 9 and 11 are allowable over these references. Dependent Claims 4, 11-16, 18 and 21-23, depending from allowable claims 9 and 17 and including all of the limitations of their allowable base claims, are therefore also allowable over these references. Furthermore, Claims 4, 11-16, 18 and 21-23 include additional recitations that further patentably distinguish them from these references.

For example, Claim 3, as amended, claims a system of two metal joints. Claim 5, as amended, claims a housing having a middle portion with a flange. Claim 14 claims a threaded cylindrical socket engageable with the housing. None of these features are taught or suggested by the references. For at least this additional reason, dependent Claims 4, 11-16, 18 and 21-23 are allowable.

In particular, Claim 15 claims “A ball joint as claimed in claim 9 wherein the housing further comprises a top surface and said retaining member further comprises a flange abutting the top surface of the housing when the external threads of the retaining member are fully engaged with the internal threads of the housing.” Claim 22 has similar language, but is dependent on Claim 17. This structure is nowhere taught or suggested by the references of record. In fact, Scheublein has no suggestion of flanges on the retaining member nor on any components attached to the retaining member that are capable of engaging any surface of the housing. For at least this additional reason, Claims 15 and 22 are allowable.

For these reasons, withdrawal of the of rejection of Claims 4, 11-16, 18 and 21-23 under 35 U.S.C. 103(a) over Scheublein in view of Maughan is respectfully requested.

Secondary Considerations of Novelty

In the view of the above arguments, Applicant submits that the claims are allowable over the references of record. In addition to the above arguments, Applicant hereby incorporates herein and renews the arguments made in prior responses in the present application. In particular, Applicant repeats the arguments made in the papers filed June 9, 2008 and January 14, 2010 wherein Applicant described in detail the advantages and commercial success of the present invention, the benefits offered by the present invention and the commercial success of products incorporating the present invention. While Applicant does not believe that such secondary considerations are required to be considered in the present application in view of the new grounds of rejection in the Non-Final Office Action and the amendments and arguments in this Amendment, Applicant repeats these arguments and retains the right to present evidence in support of these arguments in future papers.

CONCLUSION

In view of the above amendment and remarks, Applicants believe the pending application is in condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue. However, in the event there are any issues remaining in this case, Applicant requests an early Examiner Interview on this case to discuss such issues. Applicant's Attorney may be reached at the number below his signature to schedule an interview.

Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 18-0013, under Order No. 66964-0004 from which the undersigned is authorized to draw. To the extent necessary, a petition for extension of time under 37 C.F.R. § 1.136 is hereby made, the fee for which should be charged against the aforementioned account.

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Respectfully submitted,

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